

Overview

HPE Virtual Connect SE 40GB F8 Module for HPE Synergy

HPE Synergy composable fabric delivers high performance and composability for the delivery of applications and services. The composable fabric is based on master/satellite architecture

The HPE Virtual Connect SE 40Gb F8 Module, master module, based on composable fabric is designed for Composable Infrastructure. Its disaggregated, rack-scale design uses a master/satellite architecture to consolidate data center network connections, reduce hardware and scales network bandwidth across multiple HPE Synergy Frames.

The master module contains intelligent networking capabilities that extend connectivity to satellite frames through Interconnect Link Modules. This eliminates top of rack switch need and substantially reduces cost. The reduction in components also simplifies fabric management at scale while consuming fewer ports at the data center aggregation layer.

The HPE VC SE 40Gb F8 modules eliminate up to 95% of network sprawl at the compute module edge with one device that converges traffic inside frames and directly connects to external LANs. Each redundant pair of Virtual Connect modules provide eight adjustable downlink connections (six Ethernet and two Fibre Channel, or eight Ethernet) to dual-port 10Gb and in case of 20Gb Converged Network Adapters 16 adjustable downlinks connections 14 Ethernet and two Fibre Channel) on each compute module. Up to six uplinks using QSFP+ interfaces are available for connection to upstream Ethernet switches. Including splitter cables up to 24 uplinks are available for connection to upstream Ethernet and Fibre Channel. The HPE VC SE 40Gb F8 modules avoid the confusion of traditional and other converged network solutions by eliminating the need for multiple Ethernet and Fibre Channel switches, extension modules, cables and software licenses. Also, Virtual Connect wire-once connection management is built-in enabling compute modules adds, moves and replacement in minutes instead of days or weeks. The Master/Satellite disaggregated architecture removes fixed of ratios of interconnects in every frame and allows extending networking resources pool for Virtual Connect to satellite frames.

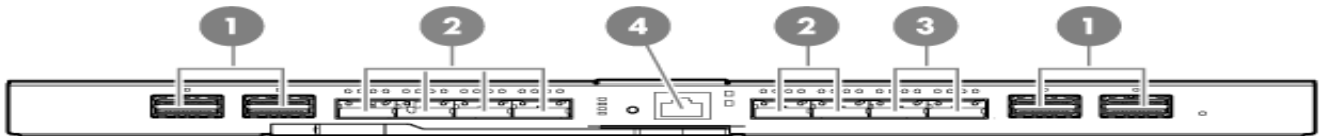


Figure 1 HPE Virtual Connect SE 40GB F8 Module for HPE Synergy Bezel

- | | |
|----------------------------|----------------------|
| 1. Interconnect link ports | 3. ICM Cluster ports |
| 2. 40Gb QSFP+ uplink ports | 4. For future use |

Models

HPE Virtual Connect SE 40GB F8 Module for HPE Synergy

Supported Products

Compatibility

HPE Virtual Connect SE 40GB F8 Module for HPE Synergy Module support the following hardware.

HPE Compute Modules

HPE Synergy Compute Modules

- HPE Synergy 480 Gen9 Configure-to-order Compute Module
- HPE Synergy 480 Gen9 Configure-to-order w/o Drive Bays Compute Module
- HPE Synergy 480 Gen9 Configure-to-order Expanded Storage Compute Module
- HPE Synergy 660 Gen9 Configure-to-order SAS Compute Module
- HPE Synergy 660 Gen9 Configure-to-order SATA Compute Module
- HPE Synergy 660 Gen9 Configure-to-order with Expanded Storage Compute Module

HPE Interconnect Link Modules

HPE Interconnect Link Modules

- HPE Synergy 10Gb Interconnect Link Module
- HPE Synergy 20Gb Interconnect Link Module

HPE Network Adapters

Converged Network Adapter:

- HPE Synergy 3820C 10/20Gb Converged Network Adapter
- HPE Synergy 2820C 10Gb Converged Network Adapter
- HPE Synergy 3520C 10/20Gb Converged Network Adapter

NOTE: Consult individual compute module TechSpecs for specific adapter support.

Supported Configurations



HPE Synergy 12000 Frame - Rear View

Mezzanines

Port Mapping

Port mapping differs slightly between full height and half-height compute modules due to the support for additional Mezzanine cards on the full height version.

HPE 12000 Synergy Frame

Supported Products

NOTE: For easy of representation and understanding pairing Interconnect Bay (ICB) are placed adjacent instead of linear fashion as in the real-frame. In real-frame Interconnect Bay 1-6 from top to bottom, [ICB 1] and [ICB 4] forms the pairing Bay, so does [ICB 2] and [ICB 5] and [ICB 3] and [ICB 6]. Hence the below representation.

Interconnect Module Configurations			Compute Module Network Adapters Used		
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Frame 1

[ICB 1]	Empty/Interconnect	->	Empty/Interconnect	[ICB 4]	Empty/Adapter
[ICB 2]	Empty/Interconnect	->	Empty/Interconnect	[ICB 5]	Empty/Adapter
[ICB 3]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 6]	HPE Synergy 10/20 CNA

Frame 2

[ICB 1]	Empty/Interconnect	->	Empty/Interconnect	[ICB 4]	Empty/Adapter
[ICB 2]	Empty/Interconnect	->	Empty/Interconnect	[ICB 5]	Empty/Adapter
[ICB 3]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 6]	HPE Synergy 10/20 CNA

Frame 1

[ICB 1]	Empty/Interconnect	->	Empty/Interconnect	[ICB 4]	Empty/Adapter
[ICB 2]					
[ICB 3]					
[ICB 1]					
[ICB 2]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 5]	HPE Synergy 10/20 CNA
[ICB 3]	Empty/Interconnect	->	Empty/Interconnect	[ICB 6]	Empty/Adapter

Frame 2

Frame 1

[ICB 1]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	Empty/Interconnect	->	Empty/Interconnect	[ICB 5]	Empty/Adapter
[ICB 3]	Empty/Interconnect	->	Empty/Interconnect	[ICB 6]	Empty/Adapter

Frame 2

[ICB 1]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	Empty/Interconnect	->	Empty/Interconnect	[ICB 5]	Empty/Adapter
[ICB 3]	Empty/Interconnect	->	Empty/Interconnect	[ICB 6]	Empty/Adapter

Frame 1

[ICB 1]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 5]	HPE Synergy 10/20 CNA
[ICB 3]	Empty/Interconnect	->	Empty/Interconnect	[ICB 6]	Empty/Adapter

Frame 2

[ICB 1]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 5]	HPE Synergy 10/20 CNA
[ICB 3]	Empty/Interconnect	->	Empty/Interconnect	[ICB 6]	Empty/Adapter

Supported Products**Frame 1**

[ICB 1]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	Empty/Interconnect	->	Empty/Interconnect	[ICB 5]	Empty/Adapter
[ICB 3]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 6]	HPE Synergy 10/20 CNA

Frame 2

[ICB 1]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	Empty/Interconnect	->	Empty/Interconnect	[ICB 5]	Empty/Adapter
[ICB 3]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 6]	HPE Synergy 10/20 CNA

Frame 1

[ICB 1]	Empty/Interconnect	->	Empty/Interconnect	[ICB 4]	Empty/Adapter
[ICB 2]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 5]	HPE Synergy 10/20 CNA
[ICB 3]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 6]	HPE Synergy 10/20 CNA

Frame 2

[ICB 1]	Empty/Interconnect	->	Empty/Interconnect	[ICB 4]	Empty/Adapter
[ICB 2]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 5]	HPE Synergy 10/20 CNA
[ICB 3]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 6]	HPE Synergy 10/20 CNA

Frame 1

[ICB 1]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 5]	HPE Synergy 10/20 CNA
[ICB 3]	HPE VC SE 40Gb F8	->	HPE 10/20Gb ILM	[ICB 6]	HPE Synergy 10/20 CNA

Frame 2

[ICB 1]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 4]	HPE Synergy 10/20 CNA
[ICB 2]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 5]	HPE Synergy 10/20 CNA
[ICB 3]	HPE 10/20Gb ILM	->	HPE VC SE 40Gb F8	[ICB 6]	HPE Synergy 10/20 CNA

Required Cabling

Standard Features

Product Features

Performance

- 12 x 20Gb Ethernet downlinks to compute module Converged Network Adapters
- Each 20Gb downlink supports up to 7 FlexNICs and 1 FlexHBA or 8 FlexNICs
- Each FlexHBA can be configured to transport either Fiber Channel over Ethernet/CEE
- Each FlexNIC and FlexHBA is recognized by the compute module as a PCIe physical function device with adjustable speeds from 200Mb to 20Gb in 100Mb increments when connected to a 2-port Converged Network Adapter or any Flex-10/20 NIC and from 1Gb to 20Gb in 200Mb increments when connected to a Dual-Port 10/20Gb Converged Network Adapter
- 6xQSFP+ external uplink ports configurable as 1x40Gb or 4x10Gb Ethernet connected to external LAN switches
- Extended list of direct attach copper cable connections supported
- Low latency (1.0 μ s Ethernet ports) throughput provides switch-like performance.
- Line-rate, full-duplex 2.56 Tbps bridging fabric
- MTU up to 9216 Bytes - Jumbo Frames
- Supports up to 288K L2 MAC entries
- VLAN Tagging, Pass-Thru and Link Aggregation supported on all uplinks

Management

- Integrated composer based HPE OneView included with every frame, providing out-of-the-box for individual Virtual Connect configuration and management.
- Pre-configure compute modules I/O configurations prior to their installation for easy deployment
- Move, add, or change compute module network connections on the fly without impacting LAN and SAN administrator
- Monitoring and management via industry standard SNMP v.1 and v.2
- Provisioned storage resource is associated directly to a specific virtual machine - even if the virtual server is re-allocated within a frame
- Compute module-side NPIV removes storage management constraint of a single physical HBA on a compute module does not add to SAN switch domains or require traditional SAN management

Options

- Optional HPE 10Gb SFP+ SR, LR, and LRM modules and 10Gb SFP+ Copper cables
- Optional HPE 40Gb QSFP+SR, SR 300M and LR modules, 40Gb SFP+ DAC and AOC cables, 40Gb DAC splitter cables and QSFP+ to SFP+ adapter
- Supports Converged Network adapters for HPE Synergy Compute Nodes(Supported functionality defined by each adapter)

Service and Support, HP Support Services and Warranty Information

Service and Support HPE Technology Services offers you a rich portfolio of consulting and support services designed to add value to our core products and solutions. We have the know-how and experience to put technology to work for you. We work closely with you, as your strategic partner, leveraging our full services portfolio to make sure that everything works to help optimize your enterprise.

Choose from services aligned to our product offerings and lifecycle. From proactive onsite services to innovative support when your products are connected to Hewlett Packard Enterprise, you choose the precise level of attention and support your business demands.

HPE Technology Services for HPE Synergy

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Support Services

HPE support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.

HPE Foundation Care services offer scalable reactive support-packages for HPE Synergy and software. You choose the type and level of service that is most suitable for your IT and business needs.

HPE Proactive Care keeps your system stable and reliable helping to prevent problems and reduce outages through proactive service management and enhanced technical response.

Advise, transform, integrate, support, automate, and flex

HPE Technology Services helps you get the most out of what you have today and transition to HPE Synergy, a composable infrastructure, at your pace and from wherever you are on the journey.

Start with the HPE Transformation Workshop to ensure that your business and IT organizations collaborate, define the topline strategy for composable, software-defined, cloud-ready infrastructure and kick-start your projects confidently. This workshop clarifies your business requirements and the issues that IT and operations teams must resolve in order to meet these requirements. A detailed executive briefing or high-level report summarizes the strategies, high-level plan and functional requirements.

HPE Modernization and Migration Services helps you choose the right platform for the right workload at the right cost and evolve your IT infrastructure, processes and organization taking advantage of “on-hybrid infrastructure” innovations such as composable, converged, software-defined, technologies. Hewlett Packard Enterprise experts advise, transform, integrate and implement for platform refresh, datacenter consolidation virtualization, migration and automation projects.

HPE Flexible Capacity is a pay per use model for on premise infrastructure. This offers needed HPE Synergy capacity in the datacenter, plus a buffer of additional capacity. As HPE Synergy will be a dynamic environment, this provides enough room to grow your environment, but only pay for actual metered use. Technology transitions and refresh can be built in, infrastructure and services are billed monthly, enabling you to align costs to business use.

HPE Datacenter Care-Infrastructure Automation (DC-IA) is an extension to HPE Datacenter Care and delivers enterprise-grade support, advice, guidance and best practices for infrastructure automation. The service also includes Enterprise editions of automation tools including Enterprise Chef and selected others. The DC-IA Center of Excellence (CoE) is staffed with highly trained experts who have specific expertise on integrating Chef with composer based HPE OneView.

Service and Support, HP Support Services and Warranty Information

Deploy and integrate

HPE Synergy First Frame Installation and Startup - Provides for hardware installation (HPE Synergy compute modules, Storage Modules, Virtual Connect modules, Interconnect Link Modules, Fibre Channel Modules, Frame Link Modules, and HPE Synergy D3940 Storage Modules) and software startup for the first frame of your HPE Synergy deployment. Additional frames can be added using the HPE Synergy Additional Frame Installation and Startup Service.

HPE Synergy Additional Frame Installation and Startup Service - Add additional frames to your HPE Synergy First Frame Startup service or expand your existing HPE Synergy Infrastructure.

Optimized Support

Choose the right support to maximize uptime, free up your resources, and achieve improved value—as you get the most out of the existing IT assets while accelerating time-to-revenue.

HPE Proactive Care Advanced - 24x7 coverage, three year Support Service

Builds and incorporates on Proactive Care and also gives customers personalized technical and operational advice from an assigned, local Account Support Manager for personalized technical collaboration, flexible access to specialist skills to help optimize business critical IT, and Critical Incident Management to help so the business is not affected if there is a system or device outage. This recommendation provides 24x7 coverage with four-hour response for hardware and Basic Software Support and Collaborative Call Management for selected non-HPE software that offers two-hour callback for supported software issues.

<http://www8.hp.com/h20195/v2/GetPDF.aspx/4AA5-3259ENW.pdf>

Standard Support

HPE Proactive Care with 24x7 coverage, three year Support Service

Hardware and software support services designed specifically for your technology with rapid access to Advanced Solution Center specialists for start to finish case management plus proactive reports and recommendations for firmware and software management and best practice advice. This recommendation provides 24x7 coverage with four-hour response for hardware and Basic Software Support and Collaborative Call Management for selected non-HPE software that offers two-hour callback for supported software issues.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

HPE Education

Training your IT staff is critical to help drive the value of HPE Synergy with increased efficiencies and better business outcomes. Training is key to the transformation and management of HPE Synergy.

Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

For more information

Additional Support Services can be found at HPE Support Services Central
<http://ssc.hpe.com>

Related Options

Interconnect Link Module Cables

HPE Synergy Interconnect Link 3m Active Optical Cable

HPE Synergy Interconnect Link 10m Active Optical Cable

QSFP+ uplink ports options

HPE BladeSystem c-Class 40Gb QSFP+ MPO SR4 100m Transceiver

HPE BladeSystem c-Class 40Gb QSFP+ LC LR4 Transceiver

HPE BladeSystem c-Class 40Gb QSFP+ MPO SR4 300m Transceiver

HPE MPO to 4 xLC 5m Cable

HPE MPO to 4x LC 15m Cable

HPE Premier Flex MPO/MPO Multi-mode OM4 8 Fiber 10m Cable

HPE Premier Flex MPO/MPO Multi-mode OM4 8 Fiber 50m Cable

HPE Premier Flex MPO/MPO OM4 100m (12ft) Cable

HPE BladeSystem c-Class 40G QSFP+ to QSFP+ 15m Active Optical Cable

HPE BladeSystem c-Class 40G QSFP+ to QSFP+ 5m Direct Attach Copper Cable

HPE BladeSystem c-Class 40G QSFP+ to 4x10G SFP+ 15m Active Optical Cable

HPE BladeSystem c-Class 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable

QSFP+ to SFP+ Options

HPE BladeSystem c-Class QSFP+ to SFP+ Adapter

HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver

HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver

HPE LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable

HPE LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable

HPE LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable

HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 5m Direct Attach Copper Cable

Technical Specifications

Shipping Dimensions	Length	19.45 in (494 mm)
	Width	15.55 in (395 mm)
	Height	5.75 in (145 mm)
Shipping Weight		Approximately 5.4Kg (12.0 Lbs)
Product Specifications Hardware	Performance	Line-rate, full-duplex 2.56 Tbps bridging fabric Non-blocking architecture Maximum transmission unit (MTU) of up to 9216 bytes (jumbo frames)
	Connectors and Cabling	12 x 20Gb downlinks through the midplane
		6 x 40Gb SR4, LR4 fiber, DAC, AOC and Splitter uplink
		4x120Gb Interconnect Link ports
	Indicators	Interconnect link cable port LED
		QSFP+ port LED
		Next button
		Reset pin-hole
		Health LED
		Ethernet mode LED
PID mode LED		
Weight	4.22Kg (9.3 Lbs)	
Latency	1.0 μ s on Ethernet only port	
Scalability	Does not contribute to the total switch limit.	
Buffer Credits	8 buffer credits per port, ASIC embedded memory	
Environmental Ranges	Temperature Range	
	Specification	10°C to 40°C (50°F to 104°F)*
	Temperature Range	
	Operating	10°C to 40°C (50°F to 104°F)
	Shipping	Shipping -40°C to 70°C (-40°F to 158°F)
	Storage	-30°C to 60°C (-22°F to 140°F)
	Maximum wet bulb temperature	38.7°C (101.66°F)
	Relative Humidity (noncondensing)	
	Operating	5% to 95%
	Shipping	5% to 95%
NOTE: All temperature ratings shown are for sea level. An altitude derating of 1°C per 304.8 m (1.8°F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048m (10,000 ft) or 70 Kpa/10.1 psia. Upper non-operating limit is 9,144 m (30,000 ft) or 30.3 KPa/4.4 psia.		
NOTE: Storage maximum humidity of 95% is based on a maximum temperature of 45°C (113°F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.		
Power Specification	12V @ 20A (240 W max)	

Technical Specifications

Product Specifications Software	Security Feature	Each user account can be configured for a combination of four access LDAP Authentication services provide role based security via an LDAP SSL Directory Server connection.
	Trunking, Failover and Other Networking Features	<p>Shared Uplink Sets using Link Aggregation Control Protocol (LACP) allows the creation of Ethernet channeling with upstream switches that conform to IEEE 802.3ad. Ports can alternatively be configured for failover only.</p> <p>External ports within a Port Set can be on the same VC Ethernet module or on multiple VC modules within the VC domain.</p> <p>Fast MAC Cache failover enables rapid recovery of network connections when a standby module becomes active.</p> <p>Smart Link network senses a failed upstream switch connection and allows teamed NICs to properly failover.</p> <p>Configure uplink speeds to Auto, 1Gb, or 10Gb on the associated uplinks</p>
	VLAN Features	<p>802.1Q VLAN supported on uplinks.</p> <p>Uplink ports can be configured for VLAN tagging at egress or pass-thru of tagged VLAN packets from Server ports.</p> <p>Native VLAN support for untagged packets on a shared uplink set.</p> <p>Packets can be targeted to a specific server ports.</p> <p>Simultaneous tunneled and mapped VLAN connections to a single domain.</p>
	Management Features	<p>Simple and intuitive Graphical User Interface (GUI) for defining, configuring, and managing all elements of Virtual Connect via composer based HPE OneView.</p> <p>Comprehensive administration, definition, and management of Ethernet Network, Shared Uplink Set, SAN Fabric management and Server Profiles.</p> <p>Embedded SNMP v1, v2 agents allow Network Management applications to query Virtual Connect for statistics and trap information.</p> <p>Any uplink port can be used as a dedicated mirrored port for traffic analysis and troubleshooting by a Network Analyzer or Sniffer.</p> <p>Domain Management of user accounts, frame, settings, and firmware updates</p> <p>MAC Address Administration allows local administration of predefined or user-defined MAC address ranges.</p> <p>WWN Address Administration allows local administration of predefined WWN addresses ranges to allow pre-provisioning of SAN volumes.</p> <p>Supported by composer based HPE OneView 2.0 and higher. Provides centralized network connection management and workload mobility for thousands of compute modules.</p>

Management and Standards Support	Standards	<ul style="list-style-type: none"> • INCITS FC-BB-5 Rev 2.00 (on all downlinks) • IEEE 802.1Qbb • IEEE 802.1Qaz • IEEE 802.1AB LLDP • IEEE 802.1Q (VLAN includes Native VLAN support and server side VLAN tag mapping) • IEEE 802.2 LLC • IEEE 802.3ad Link Aggregation • IEEE 802.3ae 10Gb Fiber Ethernet • IEEE 802.3aq 10Gb LRM Ethernet • SNMP v.1, v.2
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Technical Specifications

- FC-BB5 aka FIP snooping on Q1-Q6

Safety and Compliance

Safety Certifications

UL/CUL Recognition to UL/CSA 60950-1
 TUV to EN 60950-1
 CB report and certificate to IEC 60950-1 with all country deviations
 CE Marking

Electromagnetic Emissions Certifications FCC Part 15 Class A

FCC Part 15 Class A
 EN 55022 Class A (CISPR22 Class A)
 VCCI Class A
 CE Marking

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett Packard Enterprise Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
1-Dec-2015	Version 1	Created	New QuickSpecs



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